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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/973,125	10/08/2001	David G. Abdallah	FIREP9912142US	4715

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EXAMINER
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DEL SOLE, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/973,125

Applicant(s)

ABDALLAH, DAVID G.

Examiner

Joseph S. Del Sole

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 May 2005 and 06 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 35-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 35-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) \_\_\_\_\_
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) \_\_\_\_\_  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152) \_\_\_\_\_
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claims 36, 40 and 44 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 36, 40 and 44 fail to further limit their respective parent claims because they do not related to a structural property beyond that which is represented by the limitation wherein the passage has a rectangular cross-section.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 35-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The limitation "configured to define the position and spacing of the reinforcement elements of one of the sets of reinforcement elements in the reinforcement ply material" does not have support in the specification to relate to a specific structural property.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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Art Unit: 1722

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 35-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 35, 39 and 42 are vague and indefinite because the limitation "configured to define the position and spacing of the reinforcement elements of one of the sets of reinforcement elements in the reinforcement ply material" is unclear. One would not know to what structural features the passage is limited by this limitation.

Claims 36, 40 and 44 are vague and indefinite because the limitation "reduces the potential for transverse misalignment of the reinforcement elements in each set" is unclear. One would not know to what structural features the passages is limited by this limitation.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Idle (4,300,878) in view of Miyazono et al (5,824,171) and Ferrentino et al (4,132,756).

Idle teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 5) and a die head (Fig 2, #40) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2, #54) and includes a guide insert (Fig 5, #4) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #7 of Idle to guide a single element does not preclude the openings #7 to be used to guide a set of elements as claimed in the claims, thus Idle teaches the structure set forth by the claims).

Idle fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent-reinforcement elements in

Art Unit: 1722

different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance and fails to teach the lateral distance between passages being between about .20mm and about .50 mm and fails to teach the passages being rectangular in cross-section shape, each passage having a uniform rectangular cross-section along its length.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31). Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape each passage having a uniform rectangular cross-section along its length for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Idle with the materials extruded as taught by Miyazono and to modify the guide inserts of Idle having

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passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced and to have modified the apparatus of Ible with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

9. Claims 42 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) in view of Miyazono et al (5,824,171).

Ible teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 5) and a die head (Fig 2, #40) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2, #54) and includes a guide insert (Fig 5, #4) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #7 of Idle to guide a single element does not preclude the openings #7 to be used to guide a set of elements as claimed in the claims, thus Idle

Art Unit: 1722

teaches the structure set forth by the claims); the passage including a front end having a cross section (#7) and a rear end having a cross-section (#7), the cross-section of the front end of each passage having substantially the same shape as and being dimensioned substantially similar to the cross-section of the rear end of each passage; and wherein the passages are circular in cross-section shape.

Idle fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance and fails to teach the lateral distance between passages being between about .20mm and about .50 mm.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Idle with the

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Art Unit: 1722

materials extruded as taught by Miyazono and to modify the guide inserts of Idle having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

10. Claims 35-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) in view of Miyazono et al (5,824,171) and Ferrentino et al (4,132,756).

Kiemer teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 4, #10) and a die head (Fig 2, #12) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2) and includes a guide insert (Fig 2, #25) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #26 of Kiemer to guide a single element does not preclude the openings #26 to be used to guide a set

Art Unit: 1722

of elements as claimed in the claims, thus Kiemer teaches the structure set forth by the claims).

Kiemer fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance and fails to teach the lateral distance between passages being between about .20mm and about .50 mm and fails to teach and fails to teach the passages being rectangular in cross-section shape, each passage having a uniform rectangular cross-section along its length.

Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31). Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape each passage having a uniform rectangular cross-section along its length

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for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Kiemer with the materials extruded as taught by Miyazono and to modify the guide inserts of Kiemer having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced and to have modified the apparatus of Kiemer with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

11. Claims 42 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) in view of Miyazono et al (5,824,171) and Ferrentino et al (4,132,756).

Kiemer teaches an apparatus for making a material having an elastomeric sheet and a plurality of reinforcement elements embedded therein; the reinforcement elements are grouped in untwisted sets and each set contains a plurality of reinforcement elements; the apparatus has an extruder (Fig 4, #10) and a die head (Fig 2, #12) into which the extruder extrudes an elastomeric material; the die head defines a die throat (Fig 2) and includes a guide insert (Fig 2, #25) which guides the reinforcement elements into the die throat; wherein the guide insert has passages through which the reinforcement elements pass and which are arranged in a pattern corresponding to the arrangement of the reinforcement elements in the reinforced ply

Art Unit: 1722

material; wherein either a) the guide insert includes a passage for each set of reinforcement elements with the passages laterally spaced from each other a distance corresponding to an inter-set distance or b) the guide insert includes a passage for reinforcement elements and the passages are grouped in sets corresponding to the sets of reinforcement elements with the intra-set passages spaced apart a lateral distance corresponding to the intra-set distance (the intended use of the openings #26 of Kiemer to guide a single element does not preclude the openings #26 to be used to guide a set of elements as claimed in the claims, thus Kiemer teaches the structure set forth by the claims); the passage including a front end having a cross section (#26) and a rear end having a cross-section (#26), the cross-section of the front end of each passage having substantially the same shape as and being dimensioned substantially similar to the cross-section of the rear end of each passage; and wherein the passages are circular in cross-section shape.

Kiemer fails to teach the pattern being such that reinforcement elements in the same set are spaced apart an intra-set distance and adjacent reinforcement elements in different sets are spaced apart an inter-set distance wherein the inter-set distance is greater than the intra-set distance; the lateral distance between passages being between about .20mm and about .50 mm; the lateral distance between passages being between about 0.30 mm and 0.45 mm; and the distance between the intra-set passages being between about 0.11 mm and about 0.13 mm, and wherein the distance between inter-set passages is between about 0.13 and about 0.23 mm.

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Miyazono et al teach an elastomeric sheet made with a plurality of reinforcement elements embedded therein wherein the reinforcement elements are grouped in sets with each set containing a plurality of reinforcement elements, wherein the lateral distance between inter-set groups of elements is between about 0.30 mm and 0.45 mm (col 7, Table 1, intra-table col 4, value 3 is 0.42 mm) and further wherein the distance between intra-set elements is between about 0.11 and 0.13 mm (col 9, Table 4, intra-table col 3, value 4 is 0.14 mm and col 10, lines 51-58) and the distance between inter-set elements is between about 0.13 and about 0.23 (col 9, Table 4, intra-table col 4, value 4 is 0.18 mm) for the purpose of forming tires without degrading the durability due to growth and propagation of fine cracking (col 2, lines 24-31).

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the extrusion apparatus of Kiemer with the materials extruded as taught by Miyazono and to modify the guide inserts of Kiemer having passages spaced to produce the element spacing as taught by Miyazono because it enables tires of improved durability to be produced.

12. Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ible (4,300,878) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Ible and Miyazono et al teach the apparatus as discussed above.

Ible fails to teach the passages being rectangular in cross-section shape and having a uniform cross-section along its length.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape and having a uniform cross-section along its

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length (col 7, line 14, #43 has parallel walls) for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Ible with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

13. Claims 43-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kiemer (4,274,821) and Miyazono et al (5,824,171) in view of Ferrentino et al (4,132,756).

Kiemer and Miyazono et al teach the apparatus as discussed above.

Kiemer fails to teach the passages being rectangular in cross-section shape and having a uniform cross-section along its length.

Ferrentino et al teach passages (Fig 4, #43) for elements wherein the passages are rectangular in cross-section shape and having a uniform cross-section along its length (col 7, line 14, #43 has parallel walls) for the purpose of producing force components such that the elements maintain pre-established distances.

It would have been obvious to one having ordinary skill in the art at the time of the Applicant's invention to have modified the apparatus of Kiemer with rectangularly cross-sectioned passages as taught by Ferrentino et al because it assists in the maintenance of pre-established distances between elements.

***Response to Arguments***

14. Applicant's arguments filed 5/12/05 have been fully considered but they are not persuasive.

The Applicant argues that the '756 reference fails to disclose or suggest a passage having a rectangular cross-sectional shape that is "configured to define the position and spacing of the reinforcement elements of one of the sets of reinforcement elements in the reinforcement ply material".

The Examiner disagrees. Such a rejection is reiterated above. Additionally the Examiner notes that the "configured" limitation is new matter, vague and indefinite as it is unclear how such a limitation further structurally limits beyond the taught rectangular passage. Any passage is going to delimit passage of an object therethrough as claimed.

The Applicant argues that the combination of the '756 patent with '878 and '171 is improper because the '756 patent doesn't produce "force components so that the elements maintain pre-established distances".

The Examiner disagrees. At column 7, lines 10-20 the rectangular passage #43 is described as contributing to wires being subjected to force components to keep the wires at pre-established distances.

The Applicant argues that the wires are spaced by grooves 40 and 41 and that 43 cooperates with 40 and 41 to guide the wires.

The Examiner thus notes that 43 does contribute to the placement of the wires and thus reads on the claims.

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Art Unit: 1722

The Applicant argues that passage 43 of '756 lacks first and second ends that have substantially the same shape and dimension.

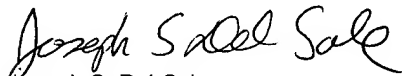
The Examiner disagrees. Substantially indicates that the two ends are not identical in shape and dimension. While the ends of '756 are not identical, they are substantially the same as set forth in the claims.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joseph S. Del Sole whose telephone number is (571) 272-1130. The examiner can normally be reached on Monday through Friday from 8:30 A.M. to 5:00 P.M.

If attempts to reach the Examiner by telephone are unsuccessful, Mr. Duane Smith can be reached at (571) 272-1166. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306 for both non-after finals and for after finals.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from the either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 886-217-9197 (toll-free).



Joseph S. Del Sole  
June 15, 2005